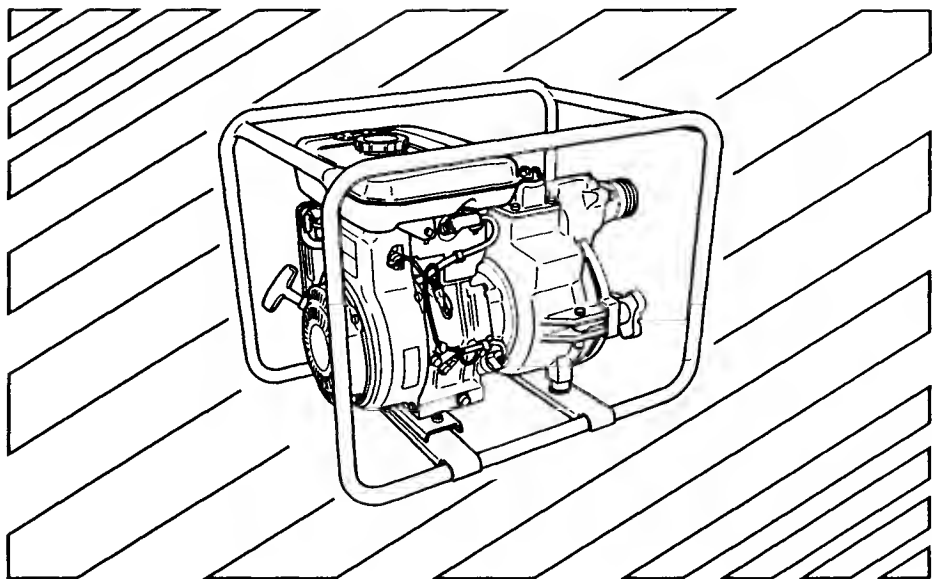


# ***Makita*** **PUMP**

アメリカ

## **EW**serie



## **INSTRUCTIONS FOR USE**

9ZZ9020031



# **WARNING:**



**The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.**

# **FEDERAL EMISSION COMPONENT DEFECT WARRANTY**

**EMISSION COMPONENT DEFECT WARRANTY COVERAGE** —This emission warranty is applicable in all States, except the State of California

MAKITA U. S. A. Inc., La Mirada, California, (herein "MAKITA") warrants to the initial retail purchaser and each subsequent owner, that this utility equipment engine (herein "engine") was designed, built, and equipped to conform at the time of initial sale to all applicable regulations of the U. S. Environmental Protection Agency (EPA), and that the engine is free of defects in materials and workmanship which would cause this engine to fail to conform with EPA regulations during its warranty period.

For the components listed under PARTS COVERED, Makita Factory Service Center or Service Center authorized by MAKITA will, at no cost to you, make the necessary diagnosis, repair, or replacement necessary to ensure that the engine complies with applicable U. S. EPA regulations.

## **EMISSION COMPONENT DEFECT WARRANTY PERIOD**

The warranty period for this engine begins on the date of sale to the initial purchaser and continues for a period of 2 years.

## **PARTS COVERED**

Listed below are the parts covered by the Emission Component Defect Warranty.

Some of the parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

- 1) Fuel Metering System
  - (a) Carburetor and its internal parts
- 2) Ignition System
  - (a) Spark plug
  - (b) Flywheel Magneto
  - (c) Ignition Coil
- 3) Other Miscellaneous Items Used in Above Systems
  - (a) Fuel Hoses
  - (b) Sealing Gaskets

## **OBTAINING WARRANTY SERVICE**

To obtain warranty service, take your engine to the nearest Makita Factory Service Center or Service Center authorized by MAKITA. Bring your sales receipts indicating date of purchase for this engine. Makita Factory Service Center or Service Center will perform the necessary repairs or adjustments within a reasonable amount of time and furnish you with a copy of the repair order.

All parts and accessories replaced under this warranty become the property of MAKITA.

## **WHAT IS NOT COVERED**

- \* Conditions resulting from tampering, misuse, improper adjustment (unless they were made by Makita Factory Service Center or Service Center authorized by MAKITA during a warranty repair), alteration, accident, failure to use the recommended fuel and oil, or not performing required maintenance services.
- \* The replacement parts used for required maintenance services.
- \* Consequential damages such as loss of time, inconvenience, loss of use of the engine of

equipment, etc.

- \* Diagnosis and inspection charges that do not result in warranty-eligible service being performed.
- \* Any non-authorized replacement part, or malfunction of authorized parts due to use of non-authorized parts.

### **OWNER'S WARRANTY RESPONSIBILITIES**

As the engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. MAKITA recommends that you retain all receipts covering maintenance on your engine, but MAKITA can not deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the engine owner, you should however be aware that the MAKITA may deny your warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your engine to the nearest Makita Factory Service Center or Service Center authorized by MAKITA when a problem exists.

If you have any questions regarding your warranty rights and responsibilities, you should contact the MAKITA Warranty department at 1-800-4-MAKITA for the information.

### **THINGS YOU SHOULD KNOW ABOUT THE EMISSION CONTROL SYSTEM WARRANTY MAINTENANCE AND REPAIRS**

You are responsible for the proper use and maintenance of the engine. You should keep all receipts and maintenance records covering the performance of regular maintenance in the event questions arise. These receipts and maintenance records should be transferred to each subsequent owner of the engine. MAKITA reserves the rights to deny warranty coverage if the engine has not been properly maintained. Warranty claims will not be denied, however, solely because of the lack of required maintenance or failure to keep maintenance records.

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL ; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY MAKITA FACTORY SERVICE CENTER OR SERVICE CENTER AUTHORIZED BY MAKITA. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF A WARRANTY CLAIM.

If other than the parts authorized by MAKITA are used for maintenance replacements or for the repair of components affecting emission control, you should assure yourself that such parts are warranted by their manufacturer to be equivalent to the parts authorized by MAKITA in their performance and durability.

### **HOW TO MAKE CLAIM**

All repairs qualifying under this limited warranty must be performed by Makita factory Service Center or Service Center authorized by MAKITA. In the event that any emission-related part is found to be defective during the warranty period, you shall notify MAKITA Warranty department at 1-800-4-MAKITA and you will be given the appropriate warranty service facilities where the warranty repair can be performed.

# **California Emission Control Warranty Statement**

**[This warranty does not apply in any other state.]**

## ***YOUR WARRANTY RIGHTS AND OBLIGATIONS***

The California Air Resources Board and Makita U.S.A., Inc. are pleased to explain the emission control warranty on your 1995 utility and /or lawn and garden equipment engine. In California, new utility and lawn and garden equipment engines must be designed, built and equipped to meet the State's stringent anti-smog standards. Makita U.S.A., Inc. must warrant the emission control system on your utility and/or lawn and garden equipment engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your utility and/or lawn and garden equipment engine.

Your emission control system includes parts such as the carburetor or fuel injection systems, the ignition system and the catalytic converter. Also included are the hoses, and connectors and other emission-related assemblies.

Where a warrantable condition exists, Makita U.S.A., Inc. will repair your utility and/or lawn and garden equipment at no cost to you including diagnosis, parts and labor.

### **MANUFACTURER'S WARRANTY COVERAGE :**

The 1995 and later utility and/or lawn and garden equipment engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Makita U.S.A., inc.

### **OWNER'S WARRANTY RESPONSIBILITIES :**

As the utility and lawn and garden equipment engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Makita U.S.A., Inc. recommends that you retain all receipts covering maintenance on your utility and /or lawn and garden equipment engine, but Makita U.S.A., Inc. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the utility and/or lawn and garden equipment engine owner, you should be aware, however, that Makita U.S.A., Inc. may deny you warranty coverage if your utility and/or lawn and garden equipment engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your utility and/or lawn and garden equipment engine to a Makita U.S.A., inc. service center as a problem exists. The warranty repairs should be completed in a reasonable time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact a Makita Factory Service Center Manager nearest you. A list of the Factory Service Center locations and phone numbers is provided below for your convenience.

## **LIMITED WARRANTY**

—California Only—

Makita U.S.A., Inc., a distributor of utility and lawn and garden equipment in the U.S., warrants to the owner of 1995 and later utility and/or lawn and garden equipment engines that the engine(1) has been designed, built, and equipped at the time of manufacture so as to conform with the applicable regulations of the California Air Resources Board and, (2) is free from defects in materials and workmanship which may cause it to fail to conform with those regulations as applicable according to the terms and conditions stated below.

### **WARRANTY PERIOD**

The warranty period begins on the date which the utility and/or lawn and garden equipment engine is delivered to the original retail purchaser and ends two years after that date. During this two year period Makita U.S.A., inc. warrants to the original retail purchaser and each subsequent purchaser that the engine is free from defect in material and workmanship that can cause the failure of a warranted emission-related part.

### **WHAT IS COVERED UNDER THIS WARRANTY**

Repair and/or replacement of any warranted emission-related part will be performed at no charge provided the work is performed at an authorized warranty station. There will also be no charge for any diagnostic labor performed at an authorized warranty station which leads to the determination that a warranted emission-related part is defective.

Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance shall be warranted for the period of time up to the first scheduled replacement of that part. This warranty shall apply only towards the repair, replacement, and/or adjustment of the component parts listed below.

### **EMISSION-RELATED PARTS COVERED UNDER THIS WARRANTY**

1. Fuel Metering Systems
  - (a) Carburetor and its internal parts
2. Ignition Systems
  - (a) Spark plug
  - (b) Flywheel Magneto
  - (c) Ignition Coil
3. Other Miscellaneous Items Used in Above Systems
  - (a) Fuel Hoses
  - (b) Sealing Gaskets

If it is determined by an authorized warranty station that other engine components have been damaged due to the failure of a warranted emission-related part during the warranty period, Makita U.S.A., Inc. will repair and/or replace the necessary components.

## WHAT IS NOT COVERED UNDER THIS WARRANTY

This warranty does not cover any emission-related part which malfunctions, fails, or is damaged due to alterations and/or modifications such as changing, adding, or removing parts.

When an engine is being serviced under warranty, Makita U.S.A., Inc. and any of its authorized dealers, distributors, or warranty stations shall not be liable for any loss of use of the engine, for any damage to goods, or loss of time or inconvenience.

This limited warranty also does not apply to any emission-related part which malfunctions, fails, or is damaged due to failure to follow the maintenance and operating instructions specified in the 1995 and later Owner's Manual including.

- (a) Improper or inadequate maintenance of any warranted emission-related part.
- (b) Improper installation, adjustment, or repair of the engine or any warranted emission-related part unless performed by a factory authorized warranty station.
- (c) Failure to use recommended fuel as specified in the 1995 and later Owner's Manual.
- (d) Repairs and diagnosis performed outside of an authorized warranty station.
- (e) Use of parts which are not authorized by Makita U.S.A., Inc.

## MAINTENANCE SCHEDULE

The engine owner is responsible for having all scheduled inspection and maintenance services performed at the intervals specified in the 1995 and later Owner's Manual and to retain records of these services as having been performed. These records should be transferred to each subsequent owner of the engine. Makita U.S.A., Inc. cannot deny a claim solely because there are no records of scheduled maintenance, however, a warranty claim may be denied if the failure to perform the scheduled maintenance and inspection resulted in the failure of a warranted emission-related part. As a minimum, the engine owner is responsible for the scheduled inspection and maintenance described below which are based on the procedures described in the Owner's Manual.

### PROCEDURE

### INTERVAL

- |  |                                     |
|--|-------------------------------------|
| (a) Check all nuts and bolts and tighten as necessary.   | Every 8 hours of use or daily.      |
| (b) Check air passages and engine cylinder fins for clogging.<br>Remove all obstructions as necessary. | Every 8 hours of use or daily.      |
| (c) Check air cleaner.   | Every 8 hours of use or daily.      |
| (d) Check spark plug.<br>Clean and adjust if necessary.  | Every 8 hours of use or daily.      |
| (e) Check muffler exhaust port.<br>Clean if necessary.   | Every 50 hours of use or monthly.   |
| (f) Replace fuel lines.  | Every 200 hours of use or annually. |
| (g) Overhaul engine.   | Every 200 hours of use or annually. |
| (h) Replace packings and gaskets.  | Every time engine is reassembled.   |

## **REPAIR AND REPLACEMENT OF EMISSION-RELATED PARTS**

It is recommended that only engine replacement parts which have been authorized and approved by Makita U.S.A., Inc. should be used in the performance of any warranty maintenance or repairs of emission- related parts. These replacement parts will be provided at no charge if the part is still under warranty.

## **HOW TO FILE A WARRANTY CLAIM AND WHERE TO GET WARRANTY SERVICES**

Contact the nearest Makita Factory Service Center Manager to determine the appropriate location where the required warranty services are to be performed. A list of the Factory Service Center locations and phone numbers are provided below for your convenience.

14930-B Northam Street  
La Mirada, CA 90638  
(714) 522-8088

1401 N.Clovis Ave., Ste. 110  
Fresno, CA 93727  
(209) 252-5166

392 S. Arrowhead, #A-1  
San Bernardino, CA 92408  
(714) 885-1289

180 S Spruce Ave., Unit D  
South San Francisco, CA 94080  
(415) 875-1002

16735 Saticoy St., Ste. 105  
Van Nuys, CA 91406  
(818) 782-2440

41850 Christy Street  
Fremont, CA 94538  
(510) 657-9881

4554 Roseville Rd., Ste. E  
North Highlands, CA 95660  
(916) 331-6211

7674 Clairemont Mesa Blvd.  
San Diego, CA 92111  
(615) 278-4471

15722-B Tustin Village Way  
Tustin, CA 92680  
(714) 667-5066



# FOREWORD

Thank you for purchasing a Makita pump.  
This manual covers operation and maintenance of Makita pump.  
All information in this publication is based on the latest product information available at the time of approval for printing.  
Please read this manual carefully before operating.

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# 1. PUMP SAFETY

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Please make sure you review each precaution carefully.

## **SURROUNDINGS**

- Operate the pump on a stable, level surface free of small rocks, loose gravel, etc.
- Keep pump at least 3 feet (1 meter) away from buildings.
- Keep pump away from flammables and other hazardous materials (trash, rags, lubricants, explosives).

## **FIRE PREVENTION**

- Be sure to stop the engine prior to refueling.
- Do not overfill fuel tank.
- If spillage does occur, wipe away spilt fuel thoroughly and wait until fuel has dried before starting engine.
- Do not operate while smoking or near an open flame.

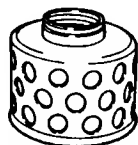
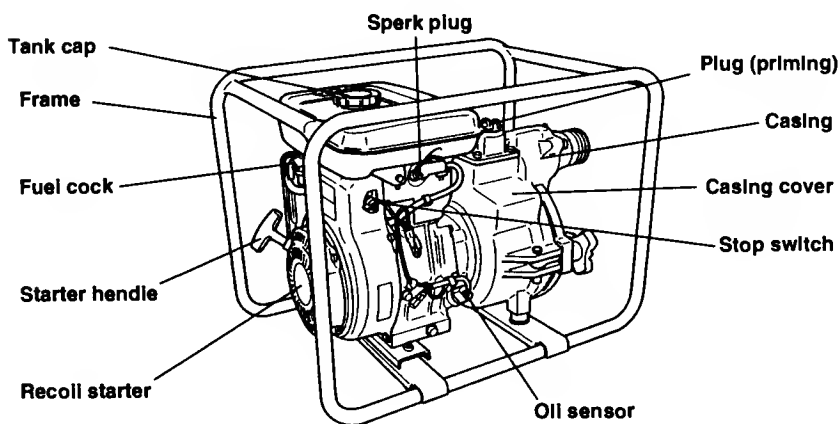
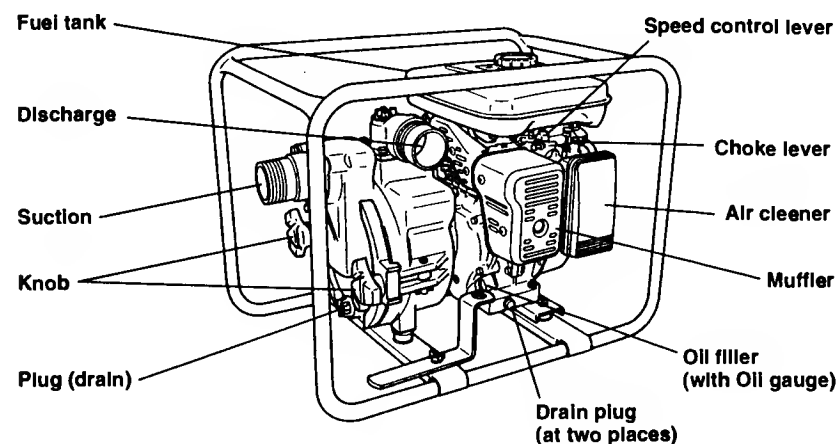
## **EXHAUST PRECAUTION**

- Never inhale exhaust gases; they contain carbon monoxide, a colorless, odorless, extremely dangerous gas which can cause unconsciousness or death.
- Never operate the pump indoors or in an enclosed area such as a cave or a tunnel.
- Exercise extreme care when operating near people and domestic animals.

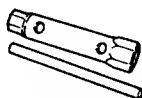
## **OTHER IMPORTANT POINTS**

- Keep away from rotating parts and hot parts while the pump is running.
- Never permit anyone to operate the pump without proper instructions.
- Know how to stop the pump quickly and understand operation of all the controls.
- Tighten the fuel tank cap securely and close the fuel cock before transit.
- Check the engine oil and refill if necessary.
- Carefully check fuel pipes and joints for looseness and fuel leakage.

## 2. COMPONENTS



Pump strainer



Tools



Hose bend



Instructions for use  
(This publication)

### 3. PREPARATIONS FOR STARTING

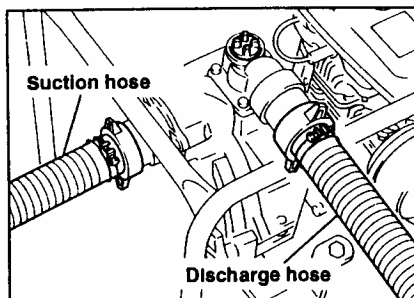
#### Connect suction hose.

Use a reinforced-wall or wire braided hose to prevent suction collapse.

Since the pump's self-priming time is directly proportional to hose length, a short hose is recommended.

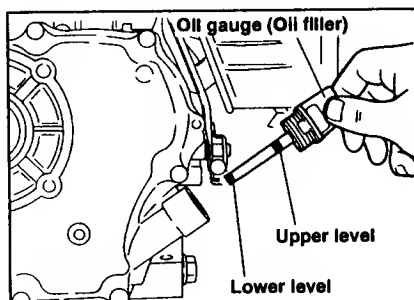
#### [CAUTION]

Always use a strainer with the suction hose. Gravel or debris sucked into the pump will cause serious damage to the impeller and the pump casting.



#### Connect discharge hose.

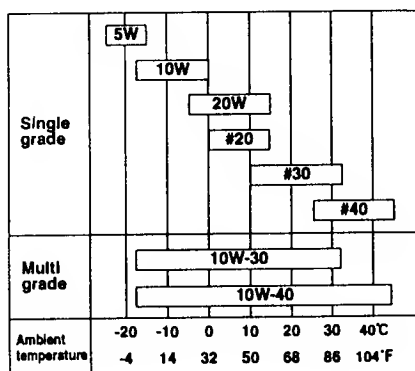
When using a fabric hose, always use a hose band to prevent the hose from disconnecting under high pressure.



#### Check engine oil level.

Be sure to check the engine oil level on a stable, level surface with the engine stopped.

- Do not thread the gauge into oil filter to check oil level.
- If the oil level is below the lower level line on the dipstick, refill with the proper oil (see table) to the upper level.
- Change oil if it is contaminated.  
(See page 15 Maintenance Schedule.)



- Use class SE (API classification) or higher grade oil.
- If multi-grade oil is employed, oil consumption tends to increase when the ambient temperature is high.

## Check fuel level.

### **⚠ WARNING**

**Do not refuel while smoking or near open flame or other such potential fire hazards. Otherwise fire accident may occur.**

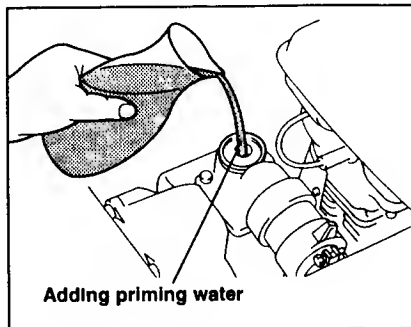
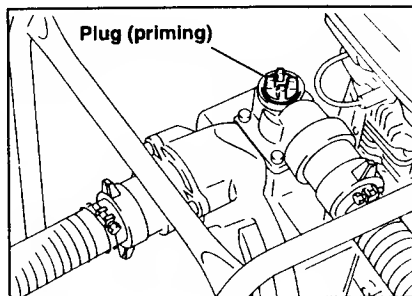
- Stop the engine and open the cap.
- Use unleaded gasoline only.
- Close the fuel cock before filling the fuel tank.
- When filling the fuel tank, always use the fuel filter.
- Wipe off any spilled fuel before starting the engine.

## Check priming water.

It is recommended that the water chamber of pump casing should be primed with full of water before operating.

### **⚠ WARNING**

**Never attempt to operate the pump without priming water or the pump will overheat. Extended dry operation will destroy the mechanical seal. If the unit has been operated dry, stop the engine immediately and allow the pump to cool before adding priming water.**

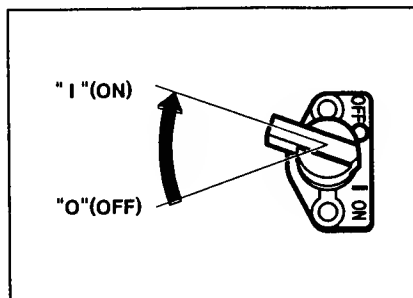


## 4. STARTING THE ENGINE

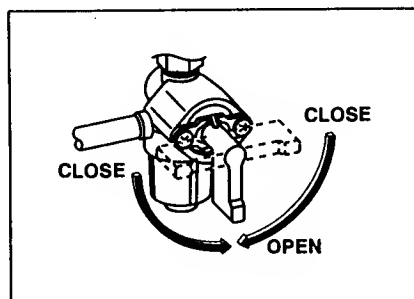
### [CAUTION]

Check the oil level before each operations as outlined on page 3.

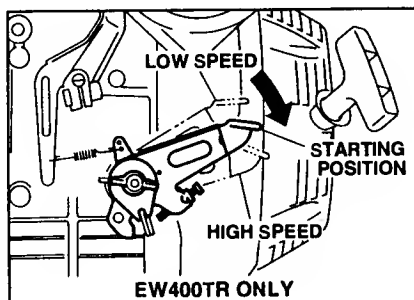
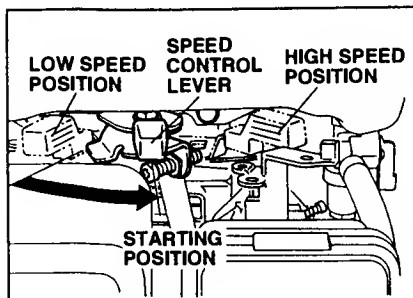
- (a) Turn the stop switch to the position "I" (ON).



- (b) Open the fuel cock.

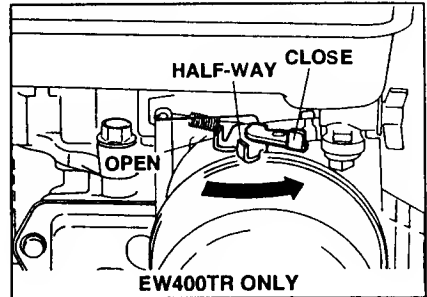
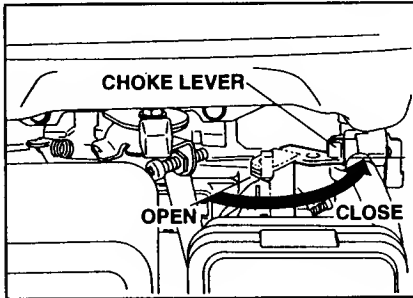


- (c) Set the speed control lever 1/3 to 1/2 of the way towards the high speed position.

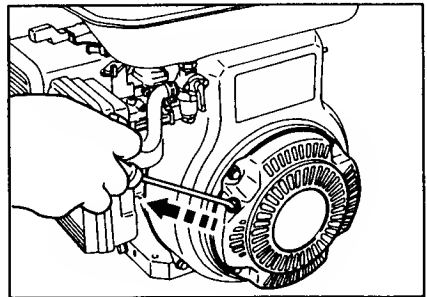


(d) Close the choke.

- If the engine is warm or the ambient temperature is high, close the choke half-way, or keep it open fully.
- If the engine is cold, or the ambient temperature is low, close the choke.

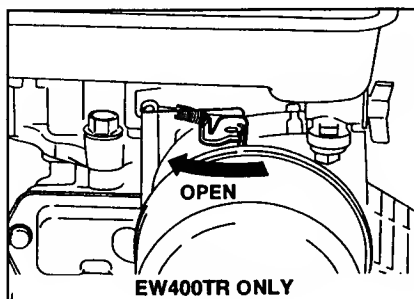
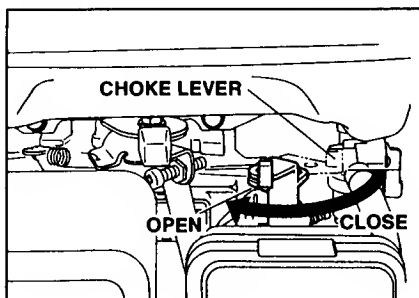


(e) Pull the starter handle slowly until resistance is felt. This is the "compression" point. Return the handle to its original position and pull swiftly. Do not pull out the rope all the way. After starting the engine, allow the starter handle return to its original position while still holding the handle.

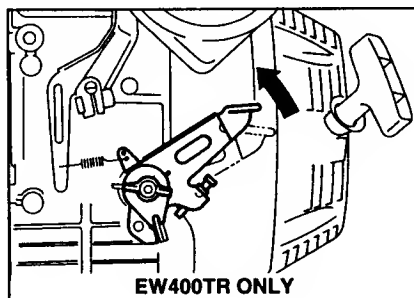
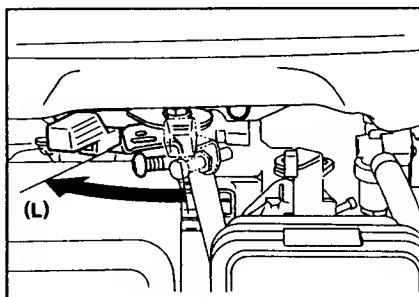


## 5. OPERATION

- (a) After starting the engine, gradually open choke by turning the choke lever and finally keep it open fully.
- Do not fully open the choke immediately when the engine is cold or the ambient temperature is low, because the engine may stop.

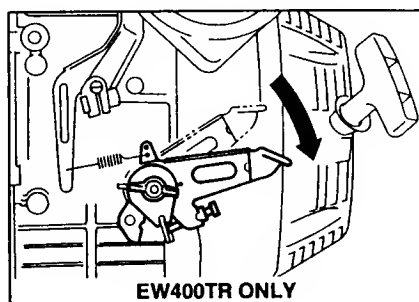
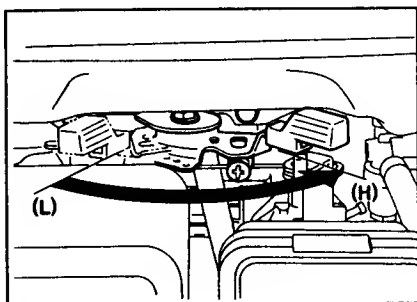


- (b) After the engine starts, set the speed control lever at the low speed position (L) and warm it up without a load for a few minutes.





Gradually move the speed control lever toward the high speed position (H) and set it at the required engine speed.



**NOTE:**

Whenever high speed operation is not required, slow the engine down (idle), by moving the speed control lever to save fuel and extend engine life.

## OIL SENSOR

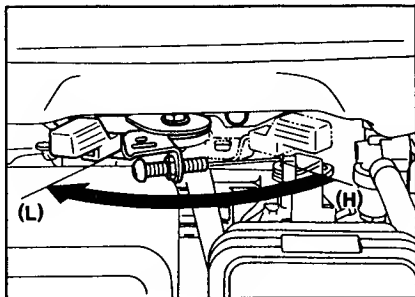
- (a) The oil sensor detects the fall in oil level in the crankcase and automatically stops the engine when the oil level falls down below the predetermined level.
- (b) When engine has stopped automatically, check the oil level. Refill engine oil to the upper level and restart the engine.
- (c) If the engine does not start by usual starting procedures, check the oil level.

**[CAUTION]**

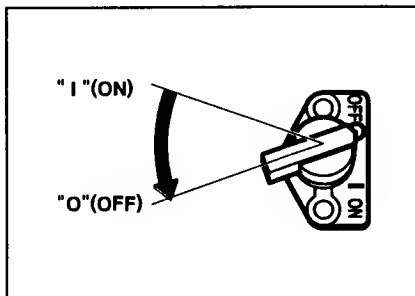
**Do not remove OIL SENSOR PROBE when refilling with oil.  
Remove oil filler cap on the opposite side of carburetor.**

## 6. STOPPING THE ENGINE

- (a) Set the speed control lever to the low speed position and allow the engine to run at low speed for 2 or 3 minutes before stopping.



- (b) Turn the STOP SWITCH counterclockwise to the position "O" (OFF).  
Do not stop the engine suddenly when it is running at high speed.

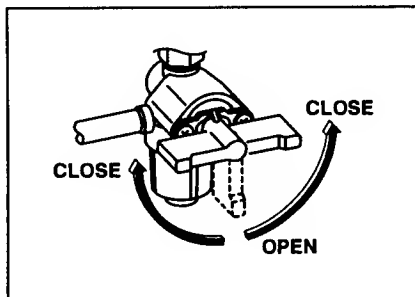


- (c) Close the fuel cock

- (d) Pull the starter handle slowly and return the handle to its original position when resistance is felt.

### NOTE :

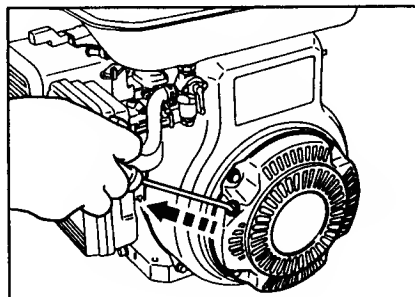
The above operation is necessary to prevent outside moist air from intruding into the combustion chamber.



### STOPPING ENGINE WITH THE FUEL COCK

Close the fuel cock and wait for a while until the engine stops.

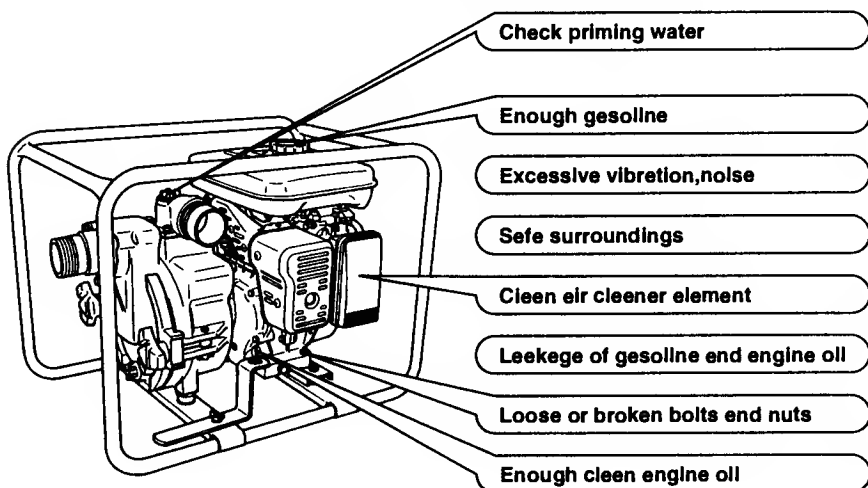
Avoid letting fuel remain in the carburetor long period, or the passages of the carburetor may become clogged with impurities, and malfunctions may result.



# 7. MAINTENANCE SCHEDULE

## DAILY INSPECTION

Before running the engine pump, check the following service items:



## PERIODIC MAINTENANCE

Periodic maintenance is vital to safe and efficient operation of your engine pump. Check the table below for periodic maintenance intervals.

It is also necessary for the user of this engine pump to conduct the maintenance and adjustments on the emission-related parts listed below to keep the emission control system effective.

The emission control system consists of the following parts :

- |                                   |   |                   |
|-----------------------------------|---|-------------------|
| (1) Carburetor and internal parts | (2) Choke system                            | (3) Fuel strainer |
| (4) Air cleaner elements          | (5) Intake pipe                             | (6) Spark plug    |
| (7) Magneto                       | (8) Fuel hoses, clamps, and sealing gaskets |                   |

The maintenance schedule indicated in the table is based on the normal engine pump operation. Should the engine pump be operated in extremely dusty condition or in heavier loading condition, the maintenance intervals must be shortened depending on the contamination of oil, clogging of filter elements, wear of parts, and so on.

	8 hours (daily)	20 hours	50 hours (weekly)	200 hours (monthly)	500 hours	1000 hours
CLEAN PUMP SET AND CHECK BOLT AND NUTS	<b>X</b> (daily)					
CHECK AND REFILL ENGINE OIL	<b>X</b> (Refill daily up to upper limit)					
CHANGE ENGINE OIL (*Note1)		<b>X</b> (Initial)	<b>X</b>			
CLEAN SPARK PLUG			<b>X</b>			
CLEAN AIR CLEANER			<b>X</b>			
CLEAN FUEL STRAINER				<b>X</b>		
CLEAN AND ADJUST SPARK PLUG AND ELECTRODES				<b>X</b>		
REPLACE SPARK PLUG					<b>X</b>	
REMOVE CARBON FROM CYLINDER HEAD (*Note2)					<b>X</b>	
ADJUST VALVE CLEARANCE (*Note2)					<b>X</b>	
CLEAN AND ADJUST CARBURETOR (*Note2)					<b>X</b>	
REPLACE FUEL LINES						<b>X</b> (yearly)
OVERHAUL ENGINE (*Note2)						<b>X</b>

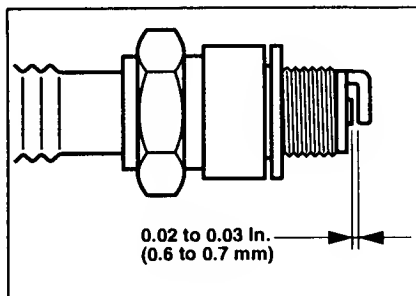
**\*NOTE: 1.** Initial oil change should be performed after first twenty (20) hours of operation. Thereafter change oil every fifty (50) hours.  
Before changing oil, check for a suitable way to dispose of old oil.  
Do not pour it down into sewage drains, onto garden soil or into open streams. Your local zoning or environmental regulations will give you more detailed instructions on proper disposal.

**\*NOTE: 2.** As to the procedures for these items, please refer to the **SERVICE MANUAL** or consult your nearest Makita service dealer.

## 8. "HOW-TO" MAINTENANCE

### INSPECTING THE SPARK PLUG

- Clean off carbon deposits on the plug electrode using a plug cleaner or wire brush.
- Check electrode gap. Adjust it to between 0.02 and 0.03 inches. (0.6 and 0.7mm)



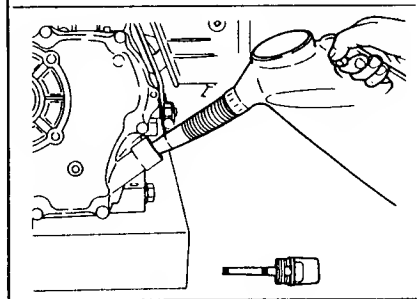
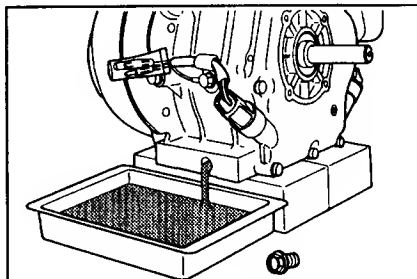
### ENGINE OIL CHANGE

- Initial oil change  
    . . . . . 20 hours of operation
- Thereafter  
    . . . . . Every 50 hours of operation

#### [CAUTION]

**Make sure the fuel cap is tightly secured to avoid spillage.**

- When changing oil, stop the engine and loosen the drain plug.
- Tighten the drain plug before refilling.
- Refer to the recommended oil table on page 3.
- Always use the proper grade and clean oil. If the engine oil is contaminated, there is not enough or it is of poor quality, engine life will be shortened.



### CLEANING FUEL STRAINER

- Check for water or contaminants in the fuel strainer.
- To remove contaminants, close the fuel cock and remove the strainer cup.
- After removing contaminants and water, wash the strainer cup with kerosene. Reinstall it securely to prevent leakage.

## CLEANING AIR CLEANER

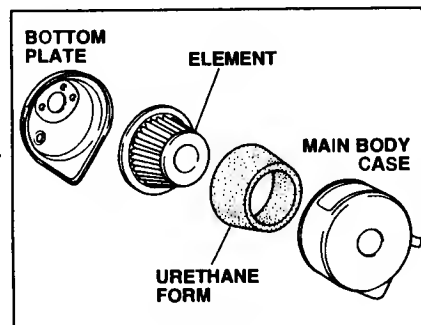
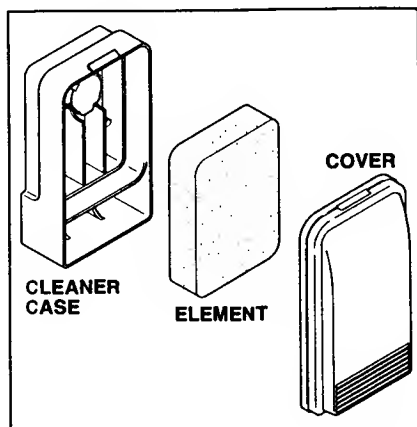
Dirty air cleaner element will cause starting difficulty, power loss, engine malfunctions, and shorten engine life extremely. Keep the air cleaner element clean.

### ■ Urethane Foam Element

Remove the element and wash it in kerosene or diesel fuel. Then saturate it in a mixture of 3 parts kerosene or diesel fuel and 1 part engine oil. Squeeze the element to remove the mixture and install it in the air cleaner.

### ■ Urethane Foam Dual Structure

1. Clean the urethane foam in the same way as described above.
  2. Wash the element in kerosene or diesel fuel. Saturate it in a mixture of 3 parts kerosene or diesel fuel and 1 part engine oil. Shake off excessive oil and reinstall.
- If an oil bath or special air cleaner with precleaner is used, clean the oil pan, fill oil to the required level or clean the dust pan.



## FUEL PIPE REPLACEMENT

Replace the fuel pipe every 2 years.

If the fuel pipe is found leaking, replace it immediately.

## CHECKING BOLTS, NUTS AND SCREWS

Retighten loose bolts and nuts.

Check for fuel and oil leaks.

Replace damaged parts with new ones.

## CLEANING PUMP INSIDE

Turn the knob counterclockwise and open the casing cover holder.

Pull the casing toward you, and then remove the casing and the inner casing.

Clean the inside of pump casing and casing cover with clean water.

## 9. TROUBLESHOOTING

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<b>Pump dose not run.</b>	Engine dose not start. (See page 15)
	Sticking of impeller (Disassemble and clean.)
<b>Pumping volume is small</b>	Sucking air at suction side. (Check piping at suction side.)
	Drop in engine output (Consult your nearest dealer.)
	Breakage of mechanical seal. (Consult your nearest dealer.)
	High suction lift (Lower.)
	Suction hose is too long or thin. (Use a thick hose in minimum length.)
	Leak of water from water passage. (Stop leaking.)
	Clogging of foreign substance in impeller. (Disassemble and clean.)
	Wear of impeller.
	Strainer is clogged. (Clean.)
	Engine speed is too low. (Consult your nearest dealer.)
<b>Pump dose not self-prime</b>	Suction of air at suction side. (Check piping at suction side.)
	Insufficient priming water inside pump casing (Prime fully.)
	Imperfect tightening of drain plug. (Tighten the plugs completely.)
	Engine speed is too low. (Consult your nearest dealer.)
	Sucking air from mechanical seal. (Consult your nearest dealer.)

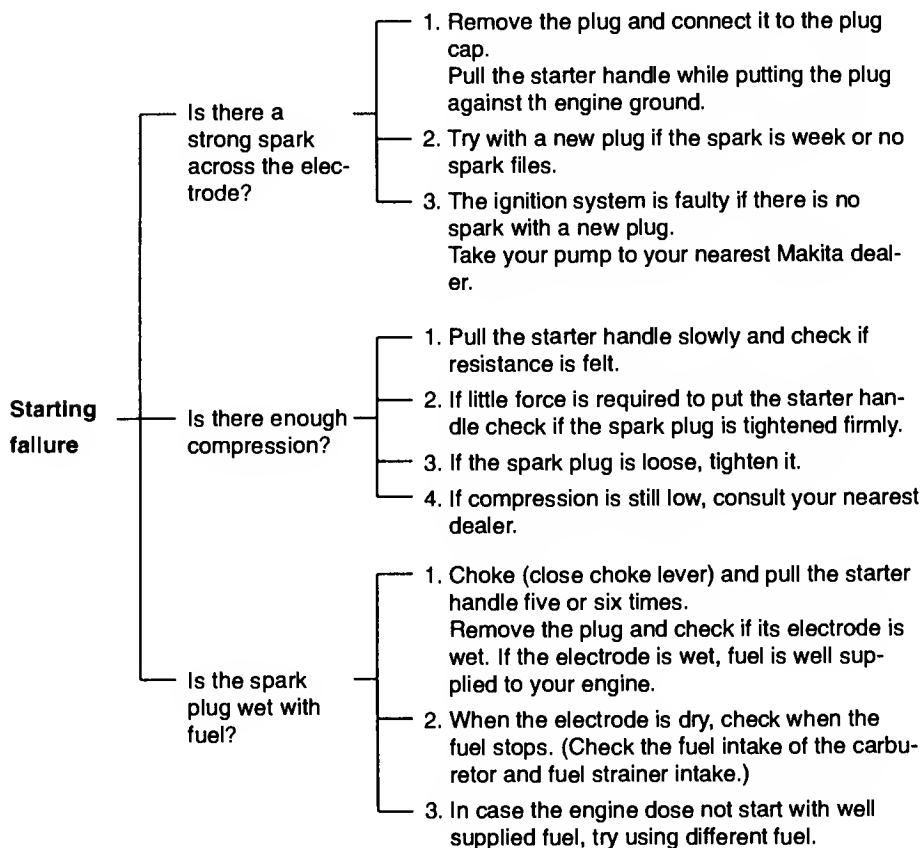
## WHEN ENGINE DOES NOT START :

- Perform the following checks before you take the pump to your Makita dealer.
- If you still have trouble after completing the checks, take the pump to your nearest Makita dealer.

### **⚠ WARNING**

**Before testing, carefully wipe off spilled fuel.**

**Put the plug as far away from the spark plug hole as possible. Ground the side of the electrode to any engine ground.**



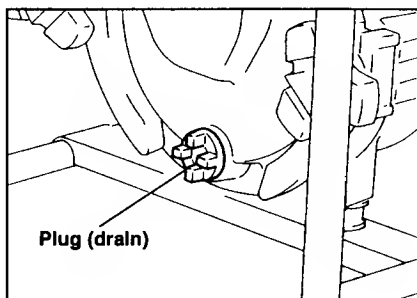


## 10. PREPARATIONS FOR STORAGE

- Drain all water from the drain plug.

### [CAUTION]

When retightening drain plug, be sure to clean the drain plug and the thread of casing. Otherwise, the thread may be damaged.



- Remove the strainer cup, and open the strainer cock to discharge the fuel from the fuel tank.  
Remove the carburetor float chamber bolt from the bottom and discharge fuel from the carburetor. **(NO SMOKING !)**
- Change the used engine oil with fresh oil.  
Remove the spark plug, pour about 5 cc of engine oil into the cylinder, slowly pull the starter knob of the recoil starter 2 or 3 times, and tighten the spark plug.
- Slowly pull the recoil starter knob until resistance is felt and leave it in that position.
- Store the pump in a dry place free from sand or dust.  
Always keep the pump covered.

## **MAKITA LIMITED ONE YEAR WARRANTY**

### **Warranty Policy**

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- there is evidence of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

Defects are due to the use of parts, accessories or attachments which are not Makita genuine products, specifically recommended for use with this tool.

Damage may be caused in transit. (This must be the responsibility of the carrier.) Claims arise from regulations such as for noise levels, exhaust gas emissions, etc. This product has been operated for racing purposes or other competitive activities. This product has been employed for powering equipment that is operated on, in or near water or explosive atmospheres.

The following parts are expendable (not durable), so warranty does not apply:

Expendable parts including, but not limited to:

Spark plugs, packings, gaskets, rubber materials, washers, nuts, V-belt, engine oil, grease, paper elements, brushes, mechanical seal, pump impeller and volute casing.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

## **Makita Corporation**

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